

NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

Form C-122

DUPLICATE

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

1959 OCT 13

AM 7:36

Revised 12-1-55

Pool Jalnet Formation Yates & S. R. County Lea
Initial X Annual _____ Special _____ Date of Test 9-20/25-59
Company AMERADA PETROLEUM CORPORATION Lease Francis Stuart Well No. 1
Unit G Sec. 22 Twp. 25 S Rge. 37 E Purchaser PERMIAN BASIN PIPELINE COMPANY
Casing 5 1/2" Wt. 15.5# I.D. 4.976" Set at 3285' Perf. 2810' To 3118'
Tubing 2-3/8" Wt. 4.7# I.D. 1.995" Set at 3210' Perf. _____ To _____
Gas Pay: From 2810 To 3118 L 2810 xG 0.645 -GL 1812 Bar.Press. 13.2
Producing Thru: Casing X Tubing _____ Type Well G. O. Dual
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 11-13-58 Packer 3174' Reservoir Temp. 86.5° Calculated

OBSERVED DATA

Tested Through (Prover) (ORIFICE) (Meter) _____ Type Taps Pipe

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(ORIFICE) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI								739.5		69.75
1.	2	0.0635	711.5	-	82			711.5		3.00
2.	2	0.0938	697.8	-	79			697.8		3.00
3.	2	0.1298	571.8	-	74			571.8		3.00
4.	2	0.1875	366.9	-	69			366.9		3.00
5.	4	1.0000	317.0	5.4	86			319.2		24.00

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wpf}}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	0.0827	-	724.7	0.9795	0.9645	1.063	60
2.	0.1820	-	671.0	0.9822	0.9645	1.063	123
3.	0.3418	-	585.0	0.9868	0.9645	1.055	201
4.	0.7851	-	380.1	0.9915	0.9645	1.035	295
5.	6.3750	42.23	332.4	0.9759	0.9645	1.026	260

330.2

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c 1.758 (1-e^{-s}) 0.117

Specific Gravity Separator Gas 0.645
Specific Gravity Flowing Fluid _____
P_c 752.7 P_c 566.6

No.	P _w P _t (psia)	P _t ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ^{-s})	P _w ²	P _c ² -P _w ²	Cal. P _w	P _w /P _c
1.	724.7	525.2	0.105	0.0110	0.0013	525.2	41.4	724.7	0.963
2.	671.0	450.2	0.216	0.0466	0.0054	450.2	118.4	671.0	0.891
3.	585.0	342.2	0.353	0.1246	0.0146	342.2	224.4	585.0	0.777
4.	380.1	144.5	0.519	0.2694	0.0315	144.5	422.1	380.1	0.505
5.	332.4	110.5	0.497	0.2468	0.0244	110.5	456.1	332.4	0.442

Absolute Potential: 301 MCFPD; n 0.679COMPANY AMERADA PETROLEUM CORPORATIONADDRESS DRAWER D, MONUMENT, NEW MEXICOAGENT and TITLE R. E. [Signature] DISTRICT ENGINEERWITNESSED J. D. HORTONCOMPANY PERMIAN BASIN PIPELINE COMPANY

REMARKS

INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

The log log paper used for plotting the back pressure curve shall be of at least three inch cycles.

NOMENCLATURE

Q = Actual rate of flow at end of flow period at W. H. working pressure (P_w).
MCF/da. @ 15.025 psia and 60° F.

P_c = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater.
psia

P_w = Static wellhead working pressure as determined at the end of flow period.
(Casing if flowing thru tubing, tubing if flowing thru casing.) psia

P_t = Flowing wellhead pressure (tubing if flowing through tubing, casing if flowing through casing.) psia

P_f = Meter pressure, psia.

h_w = Differential meter pressure, inches water.

F_g = Gravity correction factor.

F_t = Flowing temperature correction factor.

F_{pv} = Supercompressibility factor.

n = Slope of back pressure curve.

Note: If P_w cannot be taken because of manner of completion or condition of well, then P_w must be calculated by adding the pressure drop due to friction within the flow string to P_t .

NO. 441-112 DIETZEN GRAPH PAPER
LOGARITHMIC 2 CYCLES X 2 CYCLES

AMBRADA PETROLEUM CORPORATION
FRANCIS STUART #1
SW NE 22-25S-37E
JALMAT GAS POOL
DATE OF TEST 9-18/22-59

$Q_2 = 531$; Log = 2.725095
 $Q_1 = 111$; Log = 2.045323
Slope $n = 0.679$

0.67972

Abs. Pot. = 301 MCFD

Q - MCFD

